

IN THE CLAIMS:

Please cancel claims 1-19 without prejudice and substitute therefor the following new claims.

--20. A method of optimizing angular orientation of rolling contact surfaces in a bearing of a type having an inner ring and an outer ring on which the rolling contact surfaces are respectively provided and tapered rollers received therebetween, the bearing being received to a shaft and held thereto by carrying out of a caulking operation in which an end of the shaft is deformed outwardly so as to be caulked to an outer end surface of the inner ring, the method comprising:

determining an angle of the rolling contact surface of the outer ring at which extended lines of the respective rolling contact surfaces of the inner and outer rings intersect at a common point at a rotational axis of the shaft prior to the caulking operation;

obtaining an adjusted angle for the rolling contact surface of the outer ring by adding a fluctuation angle of the rolling contact surface of said inner ring due to the caulking operation to the angle of the rolling contact surface of the outer ring; and

orienting the rolling contact surface of the outer ring at the adjusted angle relative to the rotational axis prior to performing the caulking operation.

21. A method according to claim 20, further comprising experimentally determining the fluctuation angle according to a caulking load.

22. A method according to claim 20, wherein the caulking operation is applied to a double row tapered roller bearing in which the outer ring is a single outer ring having two row rolling contact surfaces adjacent in an axial direction, the tapered rollers being arranged on said two row rolling contact surfaces, and in which the inner ring has a single rolling contact surface paired with a rolling contact surface on a vehicle inner side of the outer ring, the roller bearing being attached to an outer periphery of a hub wheel to which a wheel is attached, a required area of the outer peripheral surface of said hub wheel being utilized as a rolling contact surface paired with the rolling contact surface on the vehicle outer side of said outer ring.

23. A method according to claim 22, wherein an equal velocity joint is attached to a center hole of said hub wheel so as to be rotatable integrally with said hub wheel and located proximate to said tapered roller bearing.

24. A method according to claim 20, wherein the caulking operation is applied to a tapered roller bearing in which the outer ring is a single outer ring having two row rolling contact surfaces adjacent in an axial direction, the inner

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ring including a first inner ring on a vehicle inner side corresponding to the rolling contact surface of said outer ring on the vehicle inner side, and a second inner ring on a vehicle outer side corresponding to the rolling contact surface of said outer ring on the vehicle outer side, the tapered rollers being arranged between the rolling contact surfaces of said outer ring and the first and second inner rings.--